

REMARKS

Claims 1-7, 9-10, 22-28, and 43 are pending in the application. Claims 8, 11-21, and 29-42 were previously withdrawn. Claims 1-5, 7, 9, 10, and 22-28 have been amended. Generic Claims 1 and 22 still read on the elected species of Figure 5. Applicant respectfully requests reconsideration of Claims 1-7, 9, 10, and 22-28 in view of the following remarks.

Claim Rejections - 35 U.S.C. § 102

The Examiner rejected Claims 1-7, 9-10, and 22-28 under 35 U.S.C. § 102 as anticipated by Hou.

Hou does not anticipate the subject matter of amended independent Claim 1. Specifically, Hou does not disclose a chromatography cartridge including a first plug positioned within a first open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing.

Rather, Hou discloses a cartridge 10 including a cylindrical tube 13 and a cylinder end cap 36. The end cap 36 is connected to the top edge 31 of the cylinder 13. The outer circumferential surface of the end cap 36 is not connected to the inner surface of the cylindrical tube 13. Moreover, the outer circumferential surface of the end cap 36 is positioned on the exterior of the cylindrical tube 13 and does not contact any portion of the cylindrical tube 13.

Accordingly, Hou does not teach or suggest the subject matter of amended independent Claim 1. Accordingly, independent Claim 1 is allowable. Claims 2-7, 9, and 10 depend from Claim 1, and are allowable for the same and other reasons.

Hou does not anticipate the subject matter of amended independent Claim 22. Specifically, Hou does not disclose a chromatography cartridge including a first plug positioned within a first open end of the tubular housing and having an outer circumferential surface, at least a portion of the outer circumferential surface being fused to the inner surface of the tubular housing.

Rather, Hou discloses a cartridge 10 including a cylindrical tube 13 and a cylinder end cap 36. The end cap 36 is connected to the top edge 31 of the cylinder 13. The outer circumferential surface of the end cap 36 is not connected to the inner surface of the cylindrical tube 13. Moreover, the outer circumferential surface of the end cap 36 is positioned on the exterior of the cylindrical tube 13 and does not contact any portion of the cylindrical tube 13.

Accordingly, Hou does not teach or suggest the subject matter of amended independent Claim 22. Accordingly, independent Claim 22 is allowable. Claims 23-28 depend from Claim 22 and are allowable for the same and other reasons.

Claim Rejections - 35 U.S.C. § 103

The Examiner has rejected Claims 1-7, 9-10, and 22-28 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,693,223 ("Yamada") in view of U.S. Patent No. 6,280,619 ("Lacy") and U.S. Patent No. 6,953,526 ("Fritze"). As noted by the Examiner, Yamada does not teach or suggest a chromatography cartridge including a plug positioned within the open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing. Yamada also does not teach or suggest the amended subject matter of independent Claim 1.

Lacy does not cure the deficiencies of Yamada. Lacy does not teach or suggest a chromatography cartridge including a first plug positioned within the first open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing, and a second plug positioned within the second open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing.

Rather, Lacy discloses an inline water filter having a swivel fitting on at least one end. The filter includes a hollow body 22 and an integrally-formed cap 24 at its lower end and a spin-welded cap 26 at its upper end. The integrally-formed cap 24 is formed with the hollow body 22 as a single piece. The cap 24 is not a separately component that is added to the hollow body 22 using an additional process. Also, the unique structure of the cap 24 appears to indicate that a separate process of connecting the cap 24 to the hollow body 22 is not desirable.

In addition, the caps 24, 26 each include a right-angle swivel fitting 28, 30, respectively. The fittings 28, 30 are coupled to inlet and outlet tubing. Water from the inlet tubing passes through the filter 20 and is filtered thereby before exiting out the outlet tubing. The cap 26 includes an outer circumferential surface, however, it is not connected to the inner surface of the hollow body 22. Moreover, the outer circumferential surface of the cap 26 is positioned on the exterior of the hollow body 22 and does not contact any portion of the hollow body 22.

The Examiner states that Lacy discloses spin welding a cap to the cartridge to "meld their adjacent surfaces together" for the obvious purpose of preventing leaking. Applicant respectfully disagrees. Rather, Lacy indicates that one object of the invention is to provide an inline filter that has right-angle fittings that can rotate with respect to the filter body while

maintaining a leak-proof seal. The concern of Lacy is to maintain the leak-proof seal at the location of the right-angle fittings (i.e., in the middle of the caps 24, 26). There is no discussion in Lacy that the cap 26 is spin-welded for purposes of preventing leaks.

Fritze is used by the Examiner to further support his assertion that spin welding minimizes leaks and that it would have been obvious to combine Yamada and Lacy.

First, Fritze does not cure the deficiencies of Yamada and Lacy. Fritze does not teach or suggest a chromatography cartridge including a first plug positioned within the first open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing, and a second plug positioned within the second open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing.

Rather, Fritze discloses a cartridge assembly 14 including a housing assembly 150 and an interiorly disposed filtration assembly 152. The housing assembly 150 has a generally cylindrical barrel 154 that is closed at a first end by a rounded end 156. The barrel 154 and the rounded end 156 may be formed as a single component or may be formed as two separate components bonded together. The barrel 154 includes an upper margin 160, opposite the rounded end 156, and defines an opening to the interior of the housing assembly 150. An end cap 166 is disposable within the opening defined by the inside margin 162 of the upper margin 160. Also, the unique structure of the rounded end 156 and the filtration assembly 152 appear to indicate that a separate process of connecting the rounded end 156 to the barrel 154 is not desirable.

Second, the Applicant contends that the Examiner's reasoning for the combination of Yamada and Lacy (with the support of Fritze) is based solely on impermissible hindsight and does not provide the convincing line of reasoning required to support an obviousness rejection. A person of ordinary skill in the art of chromatography is not going to review prior art that focuses on water filters for appliances. Lacy and Fritze focus on water filters while Yamada focuses on low pressure-high speed liquid chromatography to separate and purify physiological materials. To imply that spin-welding would have been obvious in Yamada at the time of the invention is taking advantage of impermissible hindsight. There is no motivation or suggestion that spin-welding should or could be used with the column device of Yamada.

Accordingly, the combination of Yamada, Lacy, and Fritze does not teach or suggest the subject matter of amended independent Claim 1. Accordingly, independent Claim 1 is allowable. Claims 2-7 and 9-10 depend from Claim 1 and are allowable for the same and other reasons.

Yamada does not teach or suggest the subject matter of independent Claim 22. As noted by the Examiner, Yamada does not teach or suggest a chromatography cartridge including a plug positioned within the open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing. Yamada also does not teach or suggest the amended subject matter of independent Claim 22.

Lacy does not cure the deficiencies of Yamada. Lacy does not teach or suggest a chromatography cartridge including a first plug positioned within the first open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing, and a second plug positioned within the second open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing.

Rather, Lacy discloses an inline water filter having a swivel fitting on at least one end. The filter includes a hollow body 22 and an integrally-formed cap 24 at its lower end and a spin-welded cap 26 at its upper end. The integrally-formed cap 24 is formed with the hollow body 22 as a single piece. The cap 24 is not a separately component that is added to the hollow body 22 using an additional process. Also, the unique structure of the cap 24 appears to indicate that a separate process of connecting the cap 24 to the hollow body 22 is not desirable.

In addition, the caps 24, 26 each include a right-angle swivel fitting 28, 30, respectively. The fittings 28, 30 are coupled to inlet and outlet tubing. Water from the inlet tubing passes through the filter 20 and is filtered thereby before exiting out the outlet tubing. The cap 26 includes an outer circumferential surface, however, it is not connected to the inner surface of the hollow body 22. Moreover, the outer circumferential surface of the cap 26 is positioned on the exterior of the hollow body 22 and does not contact any portion of the hollow body 22.

The Examiner states that Lacy discloses spin welding a cap to the cartridge to "meld their adjacent surfaces together" for the obvious purpose of preventing leaking. Applicant respectfully disagrees. Rather, Lacy indicates that one object of the invention is to provide an inline filter that has right-angle fittings that can rotate with respect to the filter body while maintaining a leak-proof seal. The concern of Lacy is to maintain the leak-proof seal at the location of the right-angle fittings (i.e., in the middle of the caps 24, 26). There is no discussion in Lacy that the cap 26 is spin-welded for purposes of preventing leaks.

Fritze is used by the Examiner to further support his assertion that spin welding minimizes leaks and that it would have been obvious to combine Yamada and Lacy.

First, Fritze does not cure the deficiencies of Yamada and Lacy. Fritze does not teach or suggest a chromatography cartridge including a first plug positioned within the first open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing, and a second plug positioned within the second open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing.

Rather, Fritze discloses a cartridge assembly 14 including a housing assembly 150 and an interiorly disposed filtration assembly 152. The housing assembly 150 has a generally cylindrical barrel 154 that is closed at a first end by a rounded end 156. The barrel 154 and the rounded end 156 may be formed as a single component or may be formed as two separate components bonded together. The barrel 154 includes an upper margin 160, opposite the rounded end 156, and defines an opening to the interior of the housing assembly 150. An end cap 166 is disposable within the opening defined by the inside margin 162 of the upper margin 160. Also, the unique structure of the rounded end 156 and the filtration assembly 152 appear to indicate that a separate process of connecting the rounded end 156 to the barrel 154 is not desirable.

Second, the Applicant contends that the Examiner's reasoning for the combination of Yamada and Lacy (with the support of Fritze) is based solely on impermissible hindsight and does not provide the convincing line of reasoning required to support an obviousness rejection. A person of ordinary skill in the art of chromatography is not going to review prior art that focuses on water filters for appliances. Lacy and Fritze focus on water filters while Yamada focuses on low pressure-high speed liquid chromatography to separate and purify physiological materials. To imply that spin-welding would have been obvious in Yamada at the time of the invention is taking advantage of impermissible hindsight. There is no motivation or suggestion that spin-welding should or could be used with the column device of Yamada.

Accordingly, the combination of Yamada, Lacy, and Fritze does not teach or suggest the subject matter of amended independent Claim 22. Accordingly, independent Claim 22 is allowable. Claims 23-28 depend from Claim 22 and are allowable for the same and other reasons.

The Examiner has rejected Claims 1-7, 9-10, and 22-28 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,360,544 ("Nakaso") in view of Lacy and Fritze. As noted by the Examiner, Nakaso does not teach or suggest a chromatography cartridge including

a plug positioned within the open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing. Nakaso also does not teach or suggest the amended subject matter of independent Claim 1.

Lacy does not cure the deficiencies of Nakaso. As noted above, Lacy does not teach or suggest a chromatography cartridge including a first plug positioned within the first open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing, and a second plug positioned within the second open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing for similar reasons discussed above.

Fritze is used by the Examiner to further support his assertion that spin welding minimizes leaks and that it would have been obvious to combine Nakaso and Lacy.

As noted above, Fritze does not cure the deficiencies of Nakaso and Lacy. In fact, Fritze does not teach or suggest a chromatography cartridge including a first plug positioned within the first open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing, and a second plug positioned within the second open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing for similar reasons discussed above.

In addition, the Applicant contends that the Examiner's reasoning for the combination of Nakaso and Lacy (with the support of Fritze) is based solely on impermissible hindsight and does not provide the convincing line of reasoning required to support an obviousness rejection. A person of ordinary skill in the art of chromatography is not going to review prior art that focuses on water filters for appliances. Lacy and Fritze focus on water filters while Nakaso focuses on deproteinization fillers for a cartridge. To imply that spin-welding would have been obvious in Nakaso at the time of the invention is taking advantage of impermissible hindsight. There is no motivation or suggestion that spin-welding should or could be used with the cartridge of Nakaso.

Accordingly, the combination of Nakaso, Lacy, and Fritze does not teach or suggest the subject matter of amended independent Claim 1. Accordingly, independent Claim 1 is allowable. Claims 2-7 and 9-10 depend from Claim 1 and are allowable for the same and other reasons.

Nakaso does not teach or suggest the subject matter of independent Claim 22. As noted by the Examiner, Nakaso does not teach or suggest a chromatography cartridge including a plug positioned within the open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing. Nakaso also does not teach or suggest the amended subject matter of independent Claim 22.

Lacy does not cure the deficiencies of Nakaso. As noted above, Lacy does not teach or suggest a chromatography cartridge including a first plug positioned within the first open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing, and a second plug positioned within the second open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing for similar reasons discussed above.

Fritze is used by the Examiner to further support his assertion that spin welding minimizes leaks and that it would have been obvious to combine Nakaso and Lacy.

As noted above, Fritze does not cure the deficiencies of Nakaso and Lacy. In fact, Fritze does not teach or suggest a chromatography cartridge including a first plug positioned within the first open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing, and a second plug positioned within the second open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing for similar reasons discussed above.

In addition, the Applicant contends that the Examiner's reasoning for the combination of Nakaso and Lacy (with the support of Fritze) is based solely on impermissible hindsight and does not provide the convincing line of reasoning required to support an obviousness rejection. A person of ordinary skill in the art of chromatography is not going to review prior art that focuses on water filters for appliances. Lacy and Fritze focus on water filters while Nakaso focuses on deproteinization fillers for a cartridge. To imply that spin-welding would have been obvious in Nakaso at the time of the invention is taking advantage of impermissible hindsight. There is no motivation or suggestion that spin-welding should or could be used with the cartridge of Nakaso.

Accordingly, the combination of Nakaso, Lacy, and Fritze does not teach or suggest the subject matter of amended independent Claim 22. Accordingly, independent Claim 22 is

allowable. Claims 23-28 depend from Claim 22 and are allowable for the same and other reasons.

The Examiner has rejected Claims 7 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Yamada in view of Lacy and Fritze, and further in view of U.S. Patent No. 6,454,891 ("Goss").

Claim 7 depends from independent Claim 1 and is allowable for the same and other reasons. Amended Claim 7 further specifies that the cartridge includes a longitudinal axis, and further comprises a plurality of axially-directed bores defined in an upper surface of one of the first plug and second plug to provide coupling between a mechanical drive device and the respective plug. As noted by the Examiner, Yamada, Lacy, and Fritze do not teach or suggest a plurality of axially-directed bores defined in an upper surface of the plug.

Goss does not cure the deficiencies of Yamada, Lacy, and Fritze. Goss does not teach or suggest a chromatography cartridge including a longitudinal axis, and further comprising a plurality of axially-directed bores defined in an upper surface of one of the first plug and second plug to provide coupling between a mechanical drive device and the respective plug. Rather, Goss discloses a spin weld assembly 120 including an insert 122, a boss 124, and a fastener 126. The only teaching evident in Goss is spin weld assemblies with a single bore. There is no teaching in Goss of a plurality of bores defined in a plug. As noted above, there is no suggestion or motivation to combine Yamada, Lacy, and Fritze.

In addition, there is no suggestion or motivation to combine Yamada, Lacy, and Fritze as discussed above. Goss also does not provide the necessary suggestion or motivation to combine Yamada, Lacy, Fritze and Goss. Accordingly, Claim 7 is allowable.

Claim 28 depends from independent Claim 22 and is allowable for the same and other reasons. Amended Claim 28 further specifies that the cartridge includes a longitudinal axis, and further comprises a plurality of axially-directed bores defined in an upper surface of one of the first plug and second plug to provide coupling between a mechanical drive device and the respective plug. As noted by the Examiner, Yamada, Lacy, and Fritze do not teach or suggest a plurality of axially-directed bores defined in an upper surface of the plug.

As noted above, Goss does not cure the deficiencies of Yamada, Lacy, and Fritze. In addition, there is no suggestion or motivation to combine Yamada, Lacy, and Fritze. Goss also does not provide the necessary suggestion or motivation to combine Yamada, Lacy, Fritze and Goss. Accordingly, Claim 28 is allowable.

The Examiner has rejected Claims 7 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Nakaso in view of Lacy and Fritze, and further in view of Goss.

Claim 7 depends from independent Claim 1 and is allowable for the same and other reasons. As noted by the Examiner, Nakaso, Lacy, and Fritze do not teach or suggest a plurality of axially-directed bores defined in an upper surface of the plug.

As noted above, Goss does not cure the deficiencies of Nakaso, Lacy, and Fritze. In addition, there is no suggestion or motivation to combine Nakaso, Lacy, and Fritze. Goss also does not provide the necessary suggestion or motivation to combine Nakaso, Lacy, Fritze and Goss. Accordingly, Claim 7 is allowable.

Claim 28 depends from independent Claim 22 and is allowable for the same and other reasons. As noted by the Examiner, Nakaso, Lacy, and Fritze do not teach or suggest a plurality of axially-directed bores defined in an upper surface of the plug.

As noted above, Goss does not cure the deficiencies of Nakaso, Lacy, and Fritze. In addition, there is no suggestion or motivation to combine Nakaso, Lacy, and Fritze. Goss also does not provide the necessary suggestion or motivation to combine Nakaso, Lacy, Fritze and Goss. Accordingly, Claim 28 is allowable.

The Examiner rejected Claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Yamada in view of Lacy and Fritze, and further in view of Hou.

Claim 9 depends from independent Claim 1 and is allowable for the same and other reasons. Amended Claim 9 further specifies a cover positioned over one of the first plug and second plug and tubular housing to hide at least a portion of the respective plug. As noted by the Examiner, Yamada, Lacy, and Fritze do not teach or suggest a cover positioned over one of the first plug and second plug and tubular housing to hide at least a portion of the respective plug.

Hou does not cure the deficiencies of Yamada, Lacy, and Fritze. Hou does not teach or suggest a cover positioned over one of the first plug and second plug and tubular housing to hide at least a portion of the respective plug. Rather, as pointed out by the Examiner, Hou discloses a protective cap 213 (see Fig. 12) for the inlet and outlet means 211, 212. The cap 213 does not encompass the plug or outlet cap 208.

In addition, there is no suggestion or motivation to combine Yamada, Lacy, and Fritze. Hou also does not provide the necessary suggestion or motivation to combine Yamada, Lacy, Fritze and Hou. Accordingly, Claim 9 is allowable.

The Examiner rejected Claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Nakaso in view of Lacy and Fritze, and further in view of Hou.

Claim 9 depends from independent Claim 1 and is allowable for the same and other reasons. Amended Claim 9 further specifies a cover positioned over one of the first plug and second plug and tubular housing to hide at least a portion of the respective plug. As noted by the Examiner, Nakaso, Lacy, and Fritze do not teach or suggest a cover positioned over one of the first plug and second plug and tubular housing to hide at least a portion of the respective plug.

Hou does not cure the deficiencies of Nakaso, Lacy, and Fritze. Hou does not teach or suggest a cover positioned over one of the first plug and second plug and tubular housing to hide at least a portion of the respective plug. Rather, as pointed out by the Examiner, Hou discloses a protective cap 213 (see Fig. 12) for the inlet and outlet means 211, 212. The cap 213 does not encompass the plug or outlet cap 208.

In addition, there is no suggestion or motivation to combine Nakaso, Lacy, and Fritze. Hou also does not provide the necessary suggestion or motivation to combine Nakaso, Lacy, Fritze and Hou. Accordingly, Claim 9 is allowable.

The Examiner has rejected Claims 1-7, 9-10, and 22-28 under 35 U.S.C. § 103(a) as being unpatentable over Hou in view of Lacy and Fritze. As noted by the Examiner, Hou does not teach or suggest a chromatography cartridge including a first plug positioned within the first open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing, and a second plug positioned within the second open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing. Hou also does not teach or suggest the amended subject matter of independent Claim 1.

Lacy and Fritze do not cure the deficiencies of Hou. As noted above, Lacy and Fritze also do not teach or suggest a chromatography cartridge including a first plug positioned within the first open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing, and a second plug positioned within the second open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing.

In addition, there is no suggestion or motivation to combine Lacy and Fritze as discussed above. Hou also does not provide the necessary suggestion or motivation to combine Lacy, Fritze and Hou. Accordingly, independent Claim 1 is allowable. Claims 2-7 and 9-10 depend from Claim 1 and are allowable for the same and other reasons.

Hou does not teach or suggest the subject matter of independent Claim 22. As noted by the Examiner, Hou does not teach or suggest a chromatography cartridge including a first plug positioned within the first open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing, and a second plug positioned within the second open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing. Hou also does not teach or suggest the amended subject matter of independent Claim 22.

Lacy and Fritze do not cure the deficiencies of Hou. As noted above, Lacy and Fritze also do not teach or suggest a chromatography cartridge including a first plug positioned within the first open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing, and a second plug positioned within the second open end and having an outer circumferential surface, a substantial portion of the outer circumferential surface being fused to the inner surface of the tubular housing.

In addition, there is no suggestion or motivation to combine Lacy and Fritze as discussed above. Hou also does not provide the necessary suggestion or motivation to combine Lacy, Fritze and Hou. Accordingly, independent Claim 22 is allowable. Claims 23-28 depend from Claim 22 and are allowable for the same and other reasons.

The Examiner has rejected Claims 7 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Hou in view of Lacy and Fritze, and further in view of Goss.

Claim 7 depends from independent Claim 1 and is allowable for the same and other reasons. Claim 7 further specifies that the cartridge has a longitudinal axis, and further comprising a plurality of axially-directed bores defined in an upper surface of the plug to provide coupling between a mechanical drive device and the plug. As noted by the Examiner, Hou, Lacy, and Fritze do not teach or suggest a plurality of axially-directed bores defined in an upper surface of the plug.

As noted above, Goss does not cure the deficiencies of Hou, Lacy, and Fritze. In addition, there is no suggestion or motivation to combine Hou, Lacy, and Fritze. Goss also does not provide the necessary suggestion or motivation to combine Hou, Lacy, Fritze and Goss. Accordingly, Claim 7 is allowable.

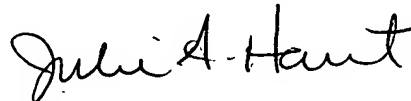
Claim 28 depends from independent Claim 22 and is allowable for the same and other reasons. As noted by the Examiner, Hou, Lacy, and Fritze do not teach or suggest a plurality of axially-directed bores defined in an upper surface of the plug.

As noted above, Goss does not cure the deficiencies of Hou, Lacy, and Fritze. In addition, there is no suggestion or motivation to combine Hou, Lacy, and Fritze. Goss also does not provide the necessary suggestion or motivation to combine Hou, Lacy, Fritze and Goss. Accordingly, Claim 28 is allowable.

CONCLUSION

In view of the foregoing, allowance of Claims 1-7, 9, 10 and 22-28 is respectfully requested. The undersigned is available for telephone consultation during normal business hours.

Respectfully submitted,



Julie A. Haut
Reg. No. 51,789

Docket No. 012365-9011-01
Michael Best & Friedrich LLP
100 East Wisconsin Avenue
Suite 3300
Milwaukee, Wisconsin 53202-4108
414.271.6560
T:\CLIENTA\012365\9011\A1782504.3